Rick
Karen

The Reid Supply Company

911 E. Indianapolis
P. O. Box 11365
Wichita, Kansas 67202
267-1231
(AC 316)

950 Liberty Street
(at Union Avenue)
Kansas City, Mo. 64101
842-4440
(AC 816)

Mr. John Goetz
KDHE
Forbes Air Force Base
Topeka, Ks. 66620

Aug. 7, 1984

Reply to Wichita office

Dear Mr. Goetz:

Enclosed is a copy of our Part B Chemical and Physical Analyses and Waste Analysis Plan for your review.

Just recently Reid Supply has begun looking into handling used dry cleaning filter cartridges. As you know, there is much uncertainty about the course of regulations in this area. At present, something has to be done with these cartridges to prevent them from being discarded as merely trash. Reid Supply is presently looking into a process to remove perchlorethylene for beneficial use from cartridge filters by steam down to a level of 5% or lower and landfilling the remainder of the cartridge filter in a hazardous waste landfill.

This will cause some changes in wastestreams leaving Reid Supply since these cartridges will be landfilled in addition to unblendable paint solids. The waste analysis plan will not be changed significantly because Reid Supply already picks up and processes perchlorethylene, dry cleaning stillbottoms which is from the same wastestream as the contents of the used filter cartridges.

Reid Supply wants to work together with the KDHE and EPA to determine a timely and responsible solution to the perchlorethylene filter cartridge problem.

Yours truly,

David G. Trombold

David G. Trombold
Hazardous Waste Coordinator

Enc:33

cp: Karen Flournoy, EPA

DGT/ltt

5. CHEMICAL AND PHYSICAL ANALYSES
264.13(a) and 122.25(a)(2)

There are two facets to the waste analysis program: (1) analyses for waste received at the facility and (2) analyses for waste leaving the facility after processing. Normally waste received by Reid Supply is processed by either distillation, blending for fuel, or repacking for hazardous waste landfill. In each case, a waste analysis of the processed waste is necessary. Figure 1 shows the flow of hazardous waste to and from Reid Supply. If a wastestream is received at the facility and transported to another facility without going through any processing, a second analysis is not necessary.

In order to demonstrate that the analyses performed on the hazardous waste received and processed at the facility are sufficient to insure their proper treatment, storage, and disposal, the following information is provided. Hazardous wastes are stored at this facility in 55 gallon drum containers and two 4500 gallon storage tanks. The two storage tanks contain blended, waste paintsolvents, still bottoms, and other materials suitable to be used as cement kiln fuel having EPA hazardous waste number D001. The 55 gallon drums contain the following:

	EPA Hazardous Waste #
Waste lacquer and enamel thinner	D001
Waste tetrachloroethylene, trichloroethylene methylene chloride, 1,1,1,-Trichloroethane the sludges from the recovery of these	F001, F002
Waste xylene and acetone	F003
Waste methanol, toluene, methyl ethyl ketone	F005

The waste lacquer and enamel thinners are ignitable because the components of these blends have flashpoints below 140°F. The waste chlorinated solvents are listed as hazardous waste because of their toxicity. The waste xylene, acetone, methanol, toluene, and methyl ethyl ketone are ignitable because they have flashpoints below 140°F.

Table 1 lists the hazardous wastes stored at the Reid Supply facility, their associated classification, and the basis for the hazard classification. In most cases, the classification is based on known characteristics of the wastes, such as ignitability. For listed wastes, the classification is based on the listing.

WASTES RECEIVED AT REID SUPPLY:

Since Reid Supply Company is an off-site facility receiving at least 64 different wastestreams, a waste analysis form will not be provided for each wastestream. Instead, representative analysis forms are provided for an analysis by a cement kiln laboratory (fig. 2), an analysis by a private laboratory (fig. 3), an analysis provided by a customer (fig. 4), and two types of fingerprint analyses (fig. 5 and 6). At least one of the first three detailed analyses will be performed on each wastestream and a fingerprint analysis will be performed on each wastestream for each pick up. A detailed analysis will be performed annually on each wastestream generating over ten drums per year. Wastestreams that generate ten drums or less per year will still have a fingerprint analysis performed with each pick up but the detailed analysis will only be performed if the fingerprint analysis shows a significant variance from the detailed analysis or the customer notifies Reid Supply of a change in his wastestream. This is done so that the small drum quantity generator does not have to perform additional expensive analyses that are not necessary to show that the wastestream remains constant. The less expensive fingerprint analysis is adequate for these small drum quantity generators to insure wastestream consistency.

To supplement the waste analysis is the Generator Audit (fig. 7). This form is to be completed annually for each wastestream of the customer in order to specifically identify the waste, additional toxic substances which it might contain, any wastestream change, and any incompatible wastestreams that could be included by the generator in a waste pick up. The analyses and survey provided will insure that the material stored, distilled, and blended at Reid Supply are compatible with the steel drum containers, tanks, and wastestreams with which they are mixed.

The specific procedures and rationale for the waste analysis program are covered in the Waste Analysis Plan that follows.

WASTE LEAVING REID SUPPLY:

In order to demonstrate that the analyses performed on the hazardous wastes leaving the facility after processing are sufficient to insure their proper handling, the following information is provided. There are two wastestreams leaving the facility that require analysis.

They are the following:

	EPA Hazardous Waste #
Waste blended solvents	D001
Unblendable waste paint solids	D001

Both of these wastestreams are classified as ignitable because they contain components having flashpoints below 140°F. An analysis form for waste solvent going to a cement kiln (fig. 8) and for waste solids going to a landfill (fig. 9) are provided. The cement kiln and landfill perform their own fingerprint analyses upon their receipt of waste from Reid Supply to insure waste identification and consistency with the original analysis.

The specific procedures and rationale for the waste analysis of waste leaving Reid Supply are covered in the Waste Analysis Plan that follows.

6. WASTE ANALYSIS PLAN
264.13(b),(c) and 122.25(a),(3)

As stated in the Chemical and Physical Analyses section there are two main parts to the waste analysis plan. The first part is the analysis plan for waste to be received at Reid Supply. This is waste received from generators that will be distilled, blended, or landfilled. The second part is the analysis plan for waste leaving Reid Supply. This is waste solvent or solids that have been processed and are ready either to be used for fuel or to be landfilled as hazardous waste.

WASTE TO BE RECEIVED AT THE FACILITY

Parameters and Rationale:

Table 2 shows the analytical parameters that apply to the waste solvents received at the facility and the rationale for selection of these parameters. Table 3 shows the test methods that are used to measure the analytical parameters. Fig.10 shows the waste analysis scheme and fig. 11 gives a detailed scheme of the fingerprint procedure.

The detailed waste analysis for each solvent wastestream consists of qualitative and quantitative gas chromatography to provide a breakdown of solvent composition, heat content, organic chloride content, pH, PCB content, and compatibility with waste solvent. If a drum of waste paint solvent has more than six inches of settled solids in the bottom, the solids are also analyzed for three heavy metals, lead, chromium, and barium.

The gas chromatograph analysis identifies the kind and quantity of solvents in a given wastestream. If the wastestream is predominantly one solvent or has a desirable composition of several solvents it will be distilled. Otherwise the material will be blended as fuel. Knowledge of solvent content is also a good check to prevent blending incompatible materials.

Heat content of a given wastestream is important to know for blending because the EPA requires a minimum heat content of 8,000 BTU's per pound to avoid sham recycling.

Organic chloride content is important because it is a likely contaminant of blended waste solvent fuel. This contaminant would be from chlorinated solvents. Cement kilns are normally limited to 3-5 percent halogens that they can have in their fuel.

The pH is important to know to avoid tank and drum corrosion and incompatible reactions with organic solvents. Levels of pH below 4 and above 11 are unacceptable.

PCB content is important because cement kilns, although they are capable of PCB destruction, are not permitted presently to handle them at levels higher than 50 ppm.

Compatibility with waste solvents is important to determine because a wastestream will be stored with other solvents and eventually blended with other solvents. Compatibility determination by mixing a representative sample of the wastestream with a representative sample of waste solvent blend insures that incompatible wastes are not stored or blended together.

Heavy metal concentration for settled solids is important because most solids will be paint solids that could have a high concentration of heavy metals. The heavy metals most encountered in paint are lead, chromium, and barium. The heavy metal level is important to know for safe handling and because cement kilns in order to maintain cement quality have to keep this level down to a permitted level - 0.5 percent (total)(4,000 ppm lead, 3,000 ppm Cr, 3,000 ppm Ba).

It should be noted that by knowing the BTU per pound, halogen, and heavy metal levels in a given wastestream, waste solvents can be blended to meet cement kiln specifications. Table 4 lists the specifications of one cement kiln operation necessary to be met in order for blended solvents to be used as fuel. The other parameters are not tested for receipt at Reid Supply because they are not as limiting as the ones described above.

It should also be noted that some wastestreams would not require a halogen or PCB content determination if the generator can show that they do not handle either chlorinated solvents or PCB,s.

Test Methods:

Table 3 shows the parameters and test methods used. Solvent composition is determined by comparative, flame ionization gas chromatography. A particular solvent is identified by matching its chromatograph with chromatographs of known solvents. The percentage composition is determined by computing the area under a solvent component curve as a percentage of total area under the whole sample curve. The detection limit is one percent.

Heat content is determined by a bomb calorimeter. The detection limit is 100 BTU's per pound.

Organic chloride content is determined by ion chromatograph. The detection limit is 0.1 percent by weight.

pH is determined by either pH meter or pH paper. Since organic solvents cannot be measured directly for pH, water is mixed into a sample of waste solvent to form a thin aqueous layer which can then be measured for pH. The detection limit is one pH level.

Heavy metal levels are determined by atomic absorption or atomic emission. The detection limit is 100 ppm.

PCB content is determined by a gas chromatograph electrocapture detector. The detection limit is 10 ppm.

Wastestream compatibility with blended waste solvents is determined by mixing a four ounce representative sample of the wastestream with a four ounce representative sample of blended solvents and observing the mixture for fifteen minutes to see if there is any temperature increase, gas generated, or thickening.

For detailed analyses all of the above tests are performed by an outside lab except the compatibility check. However, Reid Supply can perform the gas chromatograph and pH as well as compatibility determinations for fingerprint analyses.

Sampling Methods:

Before any new wastestream is received by Reid Supply Company each salesman is required to obtain a representative, one pint sample for analysis from the generator. The salesman or the generator takes the sample.

Samples for fingerprint analysis are taken by Reid Supply process technicians. No matter who takes the sample, two methods are used for the different wastestream consistancies that are encountered. For liquid and settled solids a quarter to half inch diameter plastic or glass tube is used to obtain a columnar sample similar to what a COLIWASA provides. For very thick and sticky wastestreams, a trier is used. A copy of the sampling procedures is provided in fig. 12.

Analysis Frequency:

For wastestreams generating over ten, 55 gallon drums per year, an annual detailed waste analysis will be performed. For those wastestreams generating ten drums or less per year, a detailed waste analysis will be repeated if the generator gives notification of a change in the wastestream composition as specified in the Generator Audit (fig. 7) or if a fingerprint analysis reveals a change in wastestream consistency. These ten drum or less wastestreams are not likely to change significantly from year to year to warrant performing a detailed analysis because these are single wastestream generators that have no other wastestreams to get mixed up with the other. The fingerprint analysis will be performed each time the wastestream is picked up and will insure reasonable wastestream consistency determination.

Off-site Facility Requirements:

Before a wastestream is received at Reid Supply a detailed analysis is required. This detailed analysis can be supplied by the generator or supplied by Reid Supply through an outside lab. This analysis must include quantitative and qualitative solvent composition, heat content, pH, and compatibility determination. Halogen and PCB content are determined if the generator has other wastestreams that have either of these as components or if the gas chromatograph shows that the wastestream contains chlorinated solvents. Heavy metals (Pb, Cr, Ba) are measured if the wastestream is a paint-related solvent that contains over six inches of settled solids in the bottom (determined at the time of sampling). how was this set?

Upon receipt of a wastestream at the facility, hazardous waste labels and the hazardous waste manifest are compared for discrepancies (fig. 13) which are corrected within 15 days. A sixteen ounce representative sample is taken of the wastestream and half is saved until the material has been disposed of. Settled solids levels are noted (fig. 14) as well as the condition of the drums (fig. 13). If the wastestream is for recycling, a gas chromatograph is performed to confirm solvent composition or if the wastestream is for blending, a BTU per pound and halogen content determination is made to insure adequate BTU per pound and low chloride levels. Other than these two differences the rest of the fingerprinting is the same with compatibility with blended solvents and pH being determined. The

values determined from each of the tests performed are recorded in either fig. 5 or fig. 6 and compared with the detailed analysis for significant variances. If there is a significant difference the generator is notified for an explanation and the waste drums are either returned or resampled and a new detailed analysis performed.

Significant variations that would warrant generator notification would be:

1) pH outside the range of 4-11
2) incompatible response when mixed with a sample of blended solvent
3) chloride level in the case of halogen content determination or chlorinated solvent present or much higher in composition when compared with the detailed analysis
4) an unusual peak in the gas chromatograph or unusually different solvent composition mix
5) an unusual fluctuation below 8,000 BTU's per pound compared with the detailed analysis
6) PCB's detected at levels over 50 ppm (This test only for special fingerprinting of wastestreams that could contain PCB's)

Additional Waste Analysis Requirements:

In order to insure that the waste solvents mixed at the facility do not: (1) generate extreme heat or pressure, fire or explosions, or violent reactions; (2) produce uncontrolled toxic mists, fumes, dusts, or gases in sufficient quantities to threaten human health or the environment; (3) produce uncontrolled flammable fumes, or gas in sufficient quantities to pose a risk of fire or explosions; (4) damage the structural integrity of the device or facility; (5) through other like means threaten human health or the environment; the following precautions have been taken in the analysis plan. The Generator Audit provides information that could help avoid mixing of incompatible hazardous waste. The gas chromatograph screens for unusual components that might be incompatible. pH determination screens for extremely corrosive materials that would react violently with organic solvents and screens for stronly acid wastestreams that could cause rapid corrosion of drums, tanks, and equipment. The compatibility test would ultimately determine if the wastestream is compatible with the blended waste solvents before blending on a large scale.

FOR WASTE LEAVING THE FACILITY

There are two regular outlets presently that require analysis for proper handling: (1) blended waste solvents for fuel to a cement kiln and (2) non-blendable paint solids for landfill.

(1) Blended Waste Solvents

Table 5 shows the analytical parameters that apply to blended waste solvents leaving the facility and the rationale for selection of these parameters. Table 6 shows the test methods that are used to measure the analytical parameters.

In addition to the detailed analysis each load received by the cement kiln is fingerprinted for solvent composition, BTU per pound, ash, organic chloride, lead, and PCB levels. If the levels tested do not meet the permitted specification limits of the cement kiln, further tests are performed or the load is rejected at that point.

The blended waste solvents are sampled by means of a COLIWASA-like device thus obtaining a representative columnar sample of the solvents.

Detailed analyses are repeated only as dictated by questionable findings from the fingerprint analysis.

(2) Non-blendable Paint Solids

Table 7 shows the parameters that apply to the paint solids leaving the facility for landfill and the rationale for selection of these parameters. Table 8 shows the test methods that are used to measure the parameters.

In addition to the analysis provided by Reid Supply, each load received by the landfill is fingerprinted to insure that the material received is the same as that originally specified. The parameters that are measured are pH, ignitability, density, mix ratio of solvent to solids, cyanide, sulfide, and water reactivity. Each of these parameters not only helps match the waste received with the waste originally specified, but also insures that the landfill does not receive waste that is not suitable for hazardous waste landfill.

The drums of solid waste are sampled at Reid Supply by means of a trier-type sampler which is designed to obtain a representative columnar sample of waste solids. A trier sample from each drum is composited, mixed, and sampled again by trier to obtain a representative sample for analysis.

Detailed analyses are repeated annually unless the wastestream after a year is the same. The original analysis can then be recertified to be applicable for another year.

TABLE 1

Wastes, Associated Hazards, and Basis for Hazard Description

Waste	Hazard	Basis for Hazard Designation
Tanks		
Blended waste paint solvents, still bottoms, and other materials suitable for cement kiln fuel	Ignitable	Flashpoint below 140°F
Drums		
Lacquer thinner	Ignitable	Flashpoint below 140°F
Enamel thinner	Ignitable	Flashpoint below 140°F
Xylene	Ignitable	Flashpoint below 140°F
Methyl Ethyl Ketone	Ignitable	Flashpoint below 140°F
Acetone	Ignitable	Flashpoint below 140°F
Toluene	Ignitable	Flashpoint below 140°F
Methanol	Ignitable	Flashpoint below 140°F
Tetrachloroethylene	Toxic	Listed waste F001 or F002
Methylene Chloride	Toxic	Listed waste F001 or F002
Trichlorocthylene	Toxic	Listed waste F001 or F002
1,1,1,-Trichloroethane	Toxic	Listed waste F001 or F002

TABLE 2

REID SUPPLY ANALYSIS
PARAMETERS AND RATIONALE

Parameters	Rationale
Solvent composition (qualitative and quantitative)	Handling safety, industrial hygiene, compatibility
Heat content	Prevent sham recycling for material going to a cement kiln as fuel
pH (aqueous)	Drum, tank, and solvent compatibility
Organic chlorides	Cement kilns are permitted only to receive a small percentage of this and chlorinated solvent waste is received at Reid Supply Company. It would be possible for Reid Supply to exceed the limit.
Heavy metals	Insure cement quality for cement kiln
PCB's	Reid Supply is not permitted to handle above 50 ppm. For industrial hygiene at Reid Supply to prevent unexpected exposure
Compatibility with waste solvent mixture	Drum and tank compability, hazard to workers

TABLE 3

REID SUPPLY ANALYSIS
PARAMETERS AND TEST METHODS

Parameters	Test method
Solvent composition	Flame ionization chromatography
Heat content	Bomb calorimeter
Organic chloride	Ion chromatograph
pH	pH meter or pH paper test of aqueous layer
Heavy metals	Atomic absorption or atomic emission
PCB's	Gas chromatograph electrocapture detector

TABLE 4

CEMENT KILN SPECIFICATION LIMITS

PARAMETER	SPECIFICATION LIMITS
1. Heat content (Btu./lb.)	10,000 minimum
2. Ash content	7 percent maximum
3. Water	1 percent separated phase
4. Halogens	3 percent maximum
5. Sulfur	3 percent maximum
6. PCBs	Less than 50 ppm PCB
7. Metals	0.5 percent (Total) (4000 ppm lead, 3000 ppm Cr, 3000 ppm Ba)
8. Viscosity	Less than 100 centipoise
9. Solids	30 percent maximum

TABLE 5

CEMENT KILN TEST
PARAMETERS AND RATIONALE

Parameters	Rationale
Solvent composition	Compatibility, industrial hygiene, and handling safety
Heat content	Determine fuel potential, monitor against sham recycling ($<$8,000 BTU/lb)
Ash content	Insure cement quality
Water	Prevent structural damage by freezing
Halogens	Can tolerate only a certain amount in cement
Sulfur	Can tolerate only a certain amount in cement
PCB's	Not permitted to receive more than 50 ppm, industrial hygiene
Metals	Insure cement quality
Viscosity	Insure proper pump and burning torch operation
Solids	Insure proper pump and burning torch operation

TABLE 6

CEMENT KILN
TEST METHODS FOR PARAMETERS
OF BLENDED WASTE SOLVENTS

Parameters (units)	Test Method	Accuracy
Solvent Content	Flame ionization gas chromatograph	0.1%
Heat Content (BTU/lb)	Bomb calorimeter	100 BTU/lb
Ash content (% by weight)	From bomb calorimeter	0.1%
Water (% by volume in separated stage)	Centrifuge	1%
Halogens (% by weight as chlorides)	Ion chromatograph of bomb calorimeter ash	0.1%
Sulfur (% by weight)	Ion chromatograph of bomb calorimeter ash	0.1%
PCB's (ppm)	Gas chromatography capture detector	1 ppm
Metals (ppm)	Atomic absorption or atomic emission	100 ppm
Viscosity (centipoise)		10%
Solids (% by volume)	Centrifuge	1%

TABLE 7

PARAMETERS AND RATIONALE
FOR WASTE GOING TO LANDFILL

Parameters	Rationale
Flashpoint	Determine ignitability
Solvent composition	Solvents may be present with solids
Heavy metals	Necessary for landfill records to determine if hazardous
Cyanides	Necessary for landfill records to determine if hazardous
Sulfides	Necessary for landfill records to determine if hazardous
pH	Indicate cimpatibility with steel drums and other wastes
PCB's	PCB's not allowed for landfill

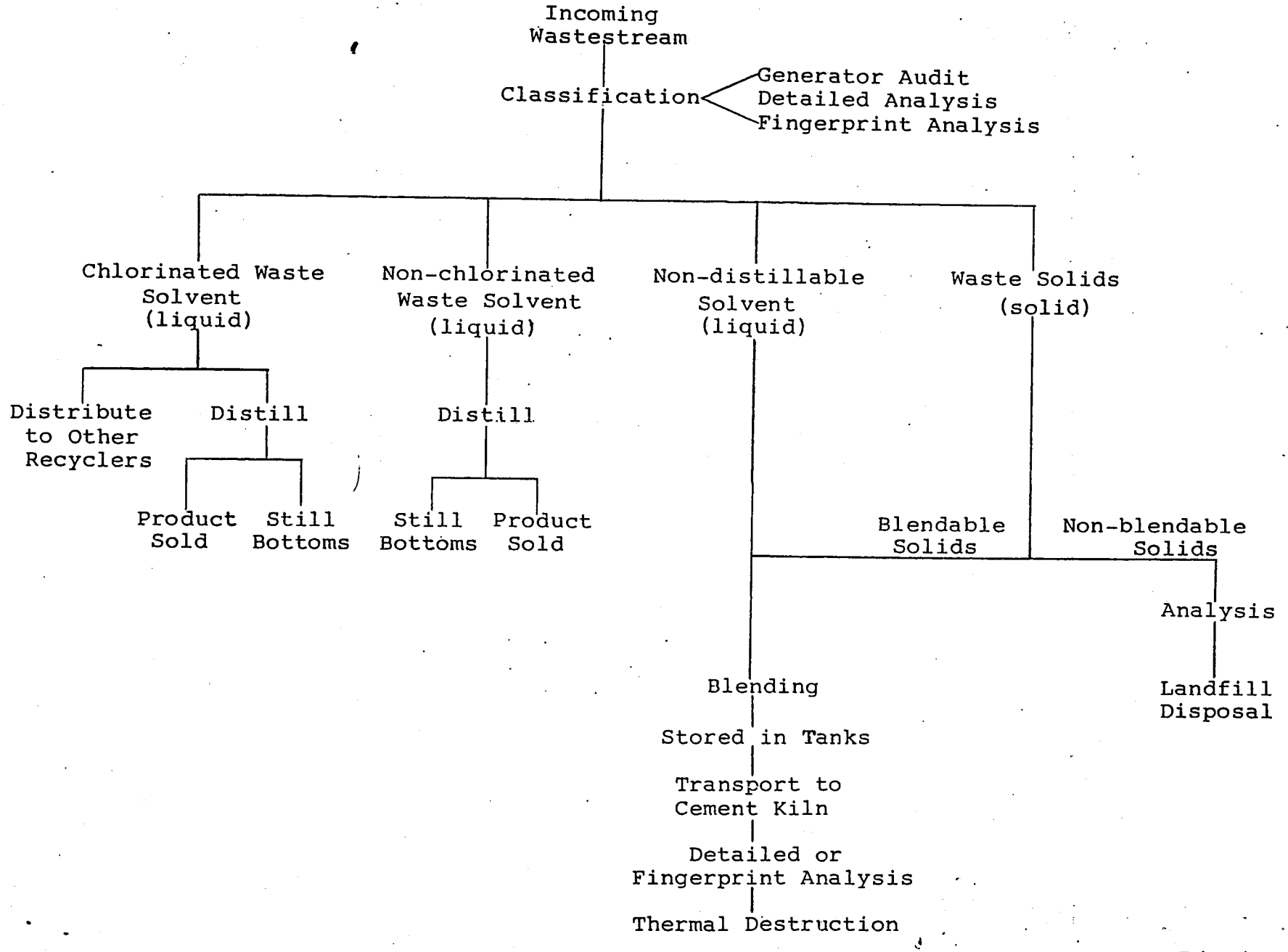
TABLE 8

TEST METHODS FOR
WASTE GOING TO LANDFILL

Parameters	Test Method
Flashpoint	Cleveland open cup or Pensky-Martin closed cup
Solvent composition	Flame ionization gas chromatograph
Heavy metals	EPA extraction procedure or atomic absorption or atomic emission
Cyanides	EPA Method 335.2
Sulfides	EPA Method 376.1 and 376.2
pH	Electronic pH meter of aqueous layer
PCB	Gas chromatograph electro capture detector

HAZARDOUS WASTE FLOW CHART

Fig.1



DGT 7/25/84

CEMENT KILN ANALYSIS

Fig. 2

SYSTECH CORPORATION
245 North Valley Road
Xenia, Ohio 45385
(513) 372-8077

Generator Customer _____ Source Waste Acetone

Address _____

_____ Date _____

Contact/Phone _____ Volume _____

QUALIFICATION ANALYSIS FOR _____

Organics					
Acetone	66.6	%	Heat Content	10600	Btu's/lb
Toluene	0.4	%	Viscosity		cp
Butyl Cellosolve	31.1	%	Solids		% volume
Alaphatics	1.9	%	Sulfur		% wt.
		%	Nitrogen		% wt.
		%	Halogens	0.2	% wt. as Cl
		%	Aqueous Extraction	6	pH
		%	Water (separated phase)		% volume
		%	Ash	1	% wt.
		%	Specific Gravity		gr/ml
		%	PCBs	< 50	ppm
		%			
		%	Metals		
		%	Pb	ppm	Ba ppm
		%	Zn	ppm	Ti ppm
		%	Cr	ppm	Fe ppm
		%			
benzene		%			

PRIVATE LAB ANALYSIS

Fig. 3

David W. Daniels
PRESIDENT

MID WEST ANALYTICAL LABORATORIES, INC.

ANALYTICAL-CONSULTING CHEMISTS & ENGINEERS

419 N. HANDLEY • P.O. BOX 2312 • WICHITA, KS 67201 • (316) 262-4407

TO: Reid Supply Co.
911 E. Indianapolis
Wichita, KS 67211

DATE: 7-10-84

LAB. NO.: 17639

SAMPLE SUBMITTED: E-2 thinner

DATE SUBMITTED: 5-1-84

ANALYSIS

Component	% Volume (20°C)	Heat of Combustion
Toluene	55.9	15,455 BTU/lb
Water	13.0	pH (aqueous extract)
Mineral Spirits	13.0	6.5
Isobutyl acetate	8.1	
Isopropanol	5.1	
Acetone	4.9	

SAMPLE SUBMITTED: E-2 solids

DATE SUBMITTED: 5-1-84

ANALYSIS

Compound	Concentration (ppm)	Heat of Combustion (BTU/lb)
Pb	520	5,175 BTU/lb
Cr	100	
Ba	235,000	

Respectfully submitted,

MID WEST ANALYTICAL LABORATORIES, INC.

Robert K. Kennedy

Robert K. Kennedy

ANALYSIS PROVIDED BY CUSTOMER

Fig. 4

LANGSTON LABORATORIES, INC.

Laboratory Report

Date Received: February 25, 1983
Time Received: 1:00 pm
Date Completed: March 23, 1983

Customer

LLI Project No.: 83-9850

Sample Description: Sludge

Sample Identification	Analysis	Results
Still Bottom Sludge 1,1,1-Trichloroethane	Flash Point	68°F
	Total Solids (Nonvolatile at 100°C)	73.1%
	Total Cyanide	< 1.0 mg/kg
	Free Cyanide	< 1.0 mg/kg
	Specific Gravity	0.949 g/ml
	Ash	0.036%
	BTU	16,300 BTU/lb
	Total Chlorine	3.5%
	Polychlorinated Biphenyls	< 10 mg/kg
	Total Arsenic	< 1 mg/kg
	Total Barium	< 1 mg/kg
	Total Cadmium	0.14 mg/kg
	Total Chromium	12 mg/kg
	Hexavalent Chromium	< 0.20 mg/kg
	Total Copper	1.5 mg/kg
	Total Lead	3.5 mg/kg
	Total Mercury	< 0.05 mg/kg
	Total Nickel	0.61 mg/kg
	Total Selenium	< 0.2 mg/kg
	Total Silver	< 0.2 mg/kg
	Total Zinc	74 mg/kg

Approved: Alan Kerschen

Alan Kerschen
Laboratory Director

2005 West 103rd Terrace Leawood, KS 66206 913/341-7800

CEMENT KILN FINGERPRINT REPORT
Fig. 5

Customer _____

Manifest or pick up date CLN HAC 112983

Heat content 16,300 BTU/lb

Total Halogens 3.5 %wt as Cl

pH 6

Compatibility OK

Wastestream 1,1,1, Trichloroethane still bottoms

RECYCLING BY DISTILLATION FINGERPRINT REPORT
Fig. 6

Customer _____

Manifest or pick up date 51684

Organics	Volume %
Methanol	0.6
Ethanol	24.0
Isopropanol	7.0
Methyl Ethyl Ketone	42.6
Methyl Isobutyl Ketone	16.0
Water	9.7

pH 6

Compatibility OK

Wastestream Waste Lacquer Solvents

GENERATOR AUDIT [redacted]g. 7 Dat[redacted]

One form per wastestream

Generator Name_____EPA ID#_____

Address_____City_____State_____Zip_____

Phone_____Company Representative_____

DOT Shipping Name_____Hazard Class_____

ID#_____EPA Hazardous Waste #_____

SPECIFIC WASTESTREAM INFORMATION

Waste Name_____

Known components_____

_____

Process generating waste_____

Types and quantities of raw materials, catalysts, and reagents used in process_____

_____

Possible alternatives resulting in use of other hazardous or non-hazardous materials which could cause wastestream variation_____

_____

Routine variations in process operation_____

Average rate of production_____

Any variation in the rate of production_____

Time of storage onsite before shipment_____

Controlled or uncontrolled changes to waste during storage (including water)_____

Any waste analysis data for wastestream (Any analysis form)_____

_____

Approximate amount of settled solids in drums_____

Relative viscosity_____

General ranking of wastestream's ignitability or reactivity_____

_____

Fig. 8

SYSTECH CORPORATION
245 North Valley Road
Xenia, Ohio 45385
(513) 372-8077

Generator Reid Supply Company Source Waste solvent

Address P.O. Box 11365

Wichita, KS 67202 Date February 21, 1984

Contact/Phone Chuck Trombold (316) 267-5742 Volume

QUALIFICATION ANALYSIS FOR FREDONIA

Organics

acetone	7.8%	Heat Content	14500	Btu's/lb
methylene chloride	0.3%	Viscosity	15	cp
MEK	22.0%	Solids	10	% volume
n-butanol	0.4%	Sulfur	0.4	% wt.
MIBK	6.8%	Nitrogen	<0.1	% wt.
toluene	18.9%	Halogens	4.7	% wt. as Cl
butyl acetate	2.5%	Aqueous Extraction	5	pH
perchloroethylene	2.7%	Water (separated phase)	0	% volume
ethyl benzene	4.7%	Ash	3	% wt.
xylene	21.0%	Specific Gravity	0.89	gr/ml
styrene	3.7%	PCBs	<50	ppm
C_{10} - C_{11} aromatics	2.1%			
C_7 - C_{12} aliphatics	7.1%			
	%			
	%			
	%			
	%			
benzene	<0.1%			

Metals

Pb	<100	ppm	Ba	<100	ppm
Zn	100	ppm	Ti	100	ppm
Cr	<100	ppm	Fe	<100	ppm
		ppm			ppm
		ppm			ppm

Note: organic composition presented as area percent of FID/GC plot.

Site Manager Comments

Signature

Technical Service Director Signature

Date submitted to General Portland Inc. for approval as a qualified source.

☐ Accepted for use as fuel ☐ Rejected for use as fuel

By Date

Waste Management, Inc.

GENERATOR'S WASTE MATERIAL PROFILE SHEET

WASTE PROFILE SHEET CODE: D 65297

TSDR

A GENERAL INFORMATION

GENERATOR NAME: Reid Supply Co.
FACILITY ADDRESS: 2549 New York, Wichita, Ks 67219
TECHNICAL CONTACT: Chuck Trombold TITLE: Process Eng. PHONE: 316 733-1342
NAME OF WASTE: Hazardous Waste NOS
PROCESS GENERATING WASTE: Paint resins and pigments from bottom of waste drums

TRANSPORTER: Ruan Transport
TRANSPORTER PHONE: 515 245-2727
GENERATOR USEPA I.D.: K,S,D,0,0,7,2,4,6,8,4,6
GENERATOR STATE I.D.:

B PHYSICAL CHARACTERISTICS OF WASTE

COLOR: Gray & Green

ODOR: ☐ NONE ☒ MILD ☒ STRONG
DESCRIBE: Solvent (MEK)

PHYSICAL STATE @ 70°F: ☒ SOLID ☒ SEMI-SOLID ☐ LIQUID ☐ POWDER

LAYERS: ☐ MULTILAYERED ☐ BI-LAYERED ☐ SINGLE PHASED

FREE LIQUIDS: ☒ YES ☒ NO — some are solid no liquid
VOLUME: 5 %

pH: ☐ < 2 ☐ 2-4 ☒ 4.1-6.9 ☐ 7 ☐ 7.1-10 ☐ 10.1-12.5 ☐ > 12.5 ☐ EXACT ☐ N/A

SPECIFIC GRAVITY: ☐ < .8 ☒ .8-1.0 ☐ 1.1-1.2 ☐ EXACT ☐ 1.3-1.4 ☐ 1.5-1.7 ☐ > 1.7

FLASH POINT: ☒ < 70°F ☐ 70°F-100°F ☐ 101°F-139°F ☐ 140°F-200°F ☐ > 200°F ☐ NO FLASH ☐ EXACT ☐ CLOSED CUP ☒ OPEN CUP

C CHEMICAL COMPOSITION (TOTALS MUST ADD TO 100%)

Methyl Ethyl Ketone	1 %
Toluene	<1 %
Xylene	<1 %
Acetone	<1 %
Perchloroethylene	<1 %
Paint resins and pigments	80 %
Methanol	<1 %
Kiln dust	10 %
Oil and grease and dirt	<1 %
Water	2 %

D METALS ☐ TOTAL (PPM) ☒ EPA EXTRACTION PROCEDURE (mg/L)

ARSENIC (As)	Trace	SELENIUM (Se)	N.D.
BARIUM (Ba)	N.D.	SILVER (Ag)	ND
CADMIUM (Cd)	.93	COPPER (Cu)	
Total CHROMIUM (Cr)	6100.8	NICKEL (Ni)	0.15
MERCURY (Hg)	Trace <1ppb	ZINC (Zn)	17,763.2
LEAD (Pb)	N.D.	THALLIUM (Th)	
CHROMIUM-HEX (Cr + 6)			

E OTHER COMPONENTS - TOTAL (PPM)

CYANIDES	ND (0.25)	PCB'S	ND (50)
SULFIDES	ND (0.4)	PHENOLICS	

F SHIPPING INFORMATION

D.O.T. HAZARDOUS MATERIAL? ☒ YES ☐ NO
PROPER SHIPPING NAME: Hazardous Waste NOS
HAZARD CLASS: Flammable I.D. NO.: F003 R.Q.: 100
METHOD OF SHIPMENT: ☐ BULK LIQUID ☐ BULK SOLID ☒ DRUM (TYPE/SIZE): 55 17E/17H
ANTICIPATED VOLUME: GALS. CUBIC YARDS
400 Drums OTHER: could continue at much lower volume
PER: ☒ ONE TIME ☐ WEEK ☐ MONTH ☐ QUARTER ☐ YEAR ☐

G HAZARDOUS CHARACTERISTICS

REACTIVITY: ☒ NONE ☐ PYROPHORIC ☐ SHOCK SENSITIVE ☐ EXPLOSIVE ☐ WATER REACTIVE ☐ OTHER

OTHER HAZARDOUS CHARACTERISTICS:
☒ NONE ☐ RADIOACTIVE ☐ ETIOLOGICAL ☐ PESTICIDE MANUFACTURING WASTE ☐ OTHER

USEPA HAZARDOUS WASTE? ☒ YES ☐ NO
USEPA HAZARDOUS CODE(S): D001
STATE HAZARDOUS WASTE? ☒ YES ☐ NO
STATE CODE(S):

H SPECIAL HANDLING INFORMATION

All the solvents are flammable and should be treated as such.
All solvents listed have TLV > 50
☐ ADDITIONAL PAGE(S) ATTACHED

I HEREBY CERTIFY THAT ALL INFORMATION SUBMITTED IN THIS AND ALL ATTACHED DOCUMENTS IS COMPLETE AND ACCURATE, AND THAT ALL KNOWN OR SUSPECTED HAZARDS HAVE BEEN DISCLOSED.

AUTHORIZED SIGNATURE: Chuck Trombold TITLE: Process Engineer DATE: 2/20/84

WASTE ANALYSIS SCHEME
Fig. 10

ORIGINAL ANALYSIS, ANNUAL, OR SPECIAL ANALYSIS
DUE TO SIGNIFICANT VARIATION IN WASTESTREAM
(on representative composite sample of wastestream)

Parameters: solvent composition
BTU/lb content
pH
heavy metals (Ba, Cr, Pb) (if warranted)
compatibility with waste solvent mixture
organic chloride (if generator has a waste-stream containing chlori-nated hydrocarbons)
PCB's (if generator handles PCB's in his operation)

EACH PICK UP

WASTE FOR DISTILLATION
(representative composite sample)

FINGERPRINT ANALYSIS

Parameters: solvent composition
pH
compatibility with waste solvent mixture
PCB's (if generator handles them in his operation)

Fail → Special Analysis

Pass → Storage and Processing

WASTE FOR BLENDING
(representative composite sample)

FINGERPRINT ANALYSIS

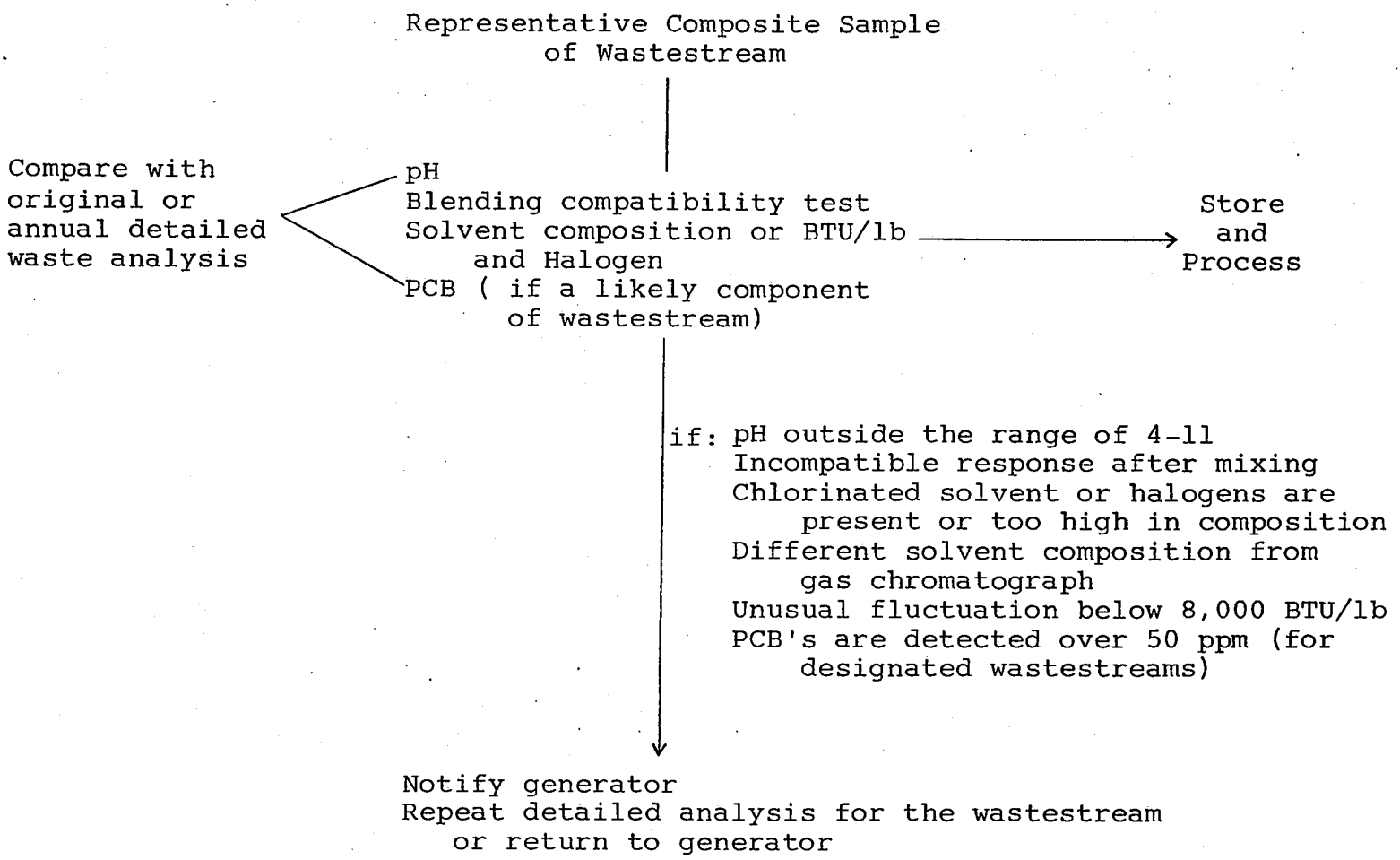
Parameters: BTU/lb
organic chloride content
pH
compatibility with waste solvent mixture
PCB's (if generator handles them in his operation)

Fail → Special Analysis

Pass → Storage and Processing

FINGERPRINT PROCEDURE FOR INCOMING
WASTESTREAMS TO REID SUPPLY COMPANY

Fig. 11



SAMPLING PROCEDURES
Fig. 12

Preparation

1. Wear protective gloves.
2. Wear protective glasses, goggles, or face shield.
3. Have a glass bottle large enough or enough small bottles to hold all representative samples taken from a given waste stream.
4. Have label(s) ready for bottle(s) so it can be attached after sampling is completed.
6. Open one drum at a time and close securely after completing sampling from each drum.

Liquid Sampling (Glass or plastic tube)

1. Place tube slowly into the drum.
2. Place thumb firmly over the top opening of the tube and draw the tube out quickly.
3. If there are any settled solids in the tube, measure the depth of the solids.
4. Dispense liquid into sample bottle.
5. Repeat steps 1-4 four more times.
6. Repeat steps 1-5 for each drum in the waste stream.
7. Dispose of glass or plastic tube.

Viscous Sampling

1. Have wooden tongue depressors handy.
2. Push trier into the drum until it reaches the drum bottom.
3. Rotate trier slowly and pull it out slowly.
4. Use tongue depressor to scrape waste into sample bottle.
5. Repeat steps 2-5 one time.
6. Repeat steps 2-5 for each drum in waste stream.
7. Clean off trier.

Fig. 13

HAZARDOUS WASTE RECEIVED CHECKLIST

(To be completed for each incoming Waste stream)

Any discrepancies with Manifest _____
Any leakers _____
Incompatibility _____
Fingerprint Variations _____

Information from Manifest

Date _____

Generator Name_____EPA ID #_____

Address _____ City_____State _____ Zip_____

Phone _____ Company Representative _____

DOT Shipping name _____ Hazard class _____

ID # _____ EPA Hazardous Waste # _____

Waste Name _____ # of Drums _____

Manifest Document #_____

Information from Drums

DOT Shipping Name _____ # of Drums _____

Are there any Proper DOT shipping names on the that do not appear in the manifest? _____ If so, what? _____

Are any drums leaking?_____ Is the leak controlled? _____

Hasform for depth of solids been completed and given to Process Engineer? _____ Date _____

All drums sampled, large sample and mixed for one minute, and two composite one pint samples made _____ Date _____

ph _____ Date _____compatibility test _____ Date _____

If incompatible, explain why _____

Drums are stored in chlorinated section _____

Drums are stored in flammable section _____

Have discrepancies between manifest and actual drum numbers and numbers been corrected? _____ Date _____

Filled out by _____ _____ Date _____

SOLIDS DEPTH IN LIQUID DRUM
Fig. 14
(To be completed for each incoming waste stream)

Date _____

Generator Name _____ EPA ID # _____

Address _____ City _____ State _____ Zip_____

Phone _____ Company Representative _____

Waste Name _____ DOT Shipping Name _____

Manifest Document # _____ Number of Drums _____

	Depth of Solids (inches)		Depth of Solids (inches)
1.		21.	
2.		22.	
3.		23.	
4.		24.	
5.		25.	
6.		26.	
7.		27.	
8.		28.	
9.		29.	
10.		30.	
11.		31.	
12.		32.	
13.		33.	
14.		34.	
15.		35.	
16.		36.	
17.		37.	
18.		38.	
19.		39.	
20.		40.	